

## REMARKS/ARGUMENTS

In the Office Action mailed July 15, 2008, claims 1 and 3-12 were rejected. In response, Applicants hereby request reconsideration of the application in view of the amendments and the below-provided remarks

For reference, claim 1 is amended as recommended by the Examiner to include the function described in the specification of the claimed embodiment. Applicants appreciate the suggestion provided by the Examiner. The amendment is supported by the original specification, specifically by page 2, lines 21-31 and page 5, lines 16-23. Other portions of the application may also support the amendment.

Additionally, claims 13-15 are added. Claim 13 recites a relative thickness of electrode layers maximizing filter bandwidth. Claim 14 recites maximizing coupling factor. Claims 13 and 14 are supported by the original specification, specifically by page 2, lines 23-31 and page 5, lines 16-23. Claim 15 recites a filter having a coupling factor of greater than 0.215. Claim 15 is supported by the original specification, specifically by FIG. 4 – FIG 7 and page 6, line 21 – page 8, line 7.

### Claim Rejections under 35 U.S.C. 103

Claims 1, 3, and 12 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley et al. (U.S. Pat. No. 6,874,211, hereinafter Bradley). Additionally, claims 4, 5, and 7-9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley in view of Lakin (U.S. Pat. No. 6,291,931, hereinafter Lakin). Additionally, claims 4, 6, and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley in view of Zimmnicki et al. (U.S. Pat. No. 6,249,074, hereinafter Zimmnicki). Additionally, claims 10 and 11 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley in view of Ylilammi (U.S. Pat. No. 6,051,907, hereinafter Ylilammi). However, Applicants respectfully submit that these claims are patentable over Bradley, Lakin, Zimmnicki, and Ylilammi for the reasons provided below.

### Independent Claim 1

Claim 1 recites “the top electrode layer is thinner than the bottom electrode layer to increase a filter bandwidth of the electro-acoustic resonator.” (emphasis added).

In contrast, Bradley does not teach increasing bandwidth of a resonator. Bradley merely teaches tuning a resonator by reducing the mass on a top electrode layer. Bradley, Abstract. Tuning a resonator, as described in Bradley, is different from increasing the bandwidth of a resonator. In general, tuning refers to adjusting the resonant frequency of the resonator. Bradley focuses on reducing the thickness of a resonator because “the frequency of the resonator depends inversely on the thickness of the resonator.” Bradley, column 1, lines 55-56. Bradley further describes reducing the thickness of an electrode layer to “increase the resonant frequency of the first resonator by about three percent.” Bradley, column 6, lines 66-67.

In contrast, an electro-acoustic resonator with differing thicknesses between top and bottom electrode layers such that the bandwidth is increased operates by increasing the coupling factor of the resonator. Page 5, lines 16-23. While Bradley does describe reducing the thickness of a resonator, Bradley does not teach manipulating the coupling factor or increasing the bandwidth of the resonator. Therefore, Bradley does not teach increasing a filter bandwidth of a resonator because Bradley merely teaches tuning the resonant frequency of a resonator.

For the reasons presented above, Bradley does not teach all of the limitations of the claim because Bradley does not teach the top electrode layer is thinner than the bottom electrode layer to increase a filter bandwidth of the electro-acoustic resonator, as recited in the claim. Accordingly, Applicants respectfully assert claim 1 is patentable over Bradley because Bradley does not teach all of the limitations of the claim.

### Dependent Claims

Claims 3-15 depend from and incorporate all of the limitations of independent claim 1. Applicants respectfully assert claims 3-15 are allowable based on an allowable base claim. Additionally, each of claims 3-15 may be allowable for further reasons.

## **CONCLUSION**

Applicants respectfully request reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,

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